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Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY & A.

APR 1 1927

Acc. No.

State: *Oregon*

11-5813

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 4611

LOCALITY:

Clatsop Plains
~~*Northern, Oregon*~~

Clatsop spit - Gearhart Ore

~~*Barach Star - Sheet 11*~~

1926

CHIEF OF PARTY:

R. F. LUCE

DESCRIPTIVE REPORT

To accompany Launch Hydrographic Sheet "A", Clatsop Plains to Gearhart, Oregon.

INSTRUCTIONS

The work covered by this sheet was called for under instructions from the Director dated April 17, 1926.

LIMITS

This sheet represents part of the hydrography executed by the Launch "STAR" during the field season of 1926 and extends from latitude 46°-11' to 46-02-10, covering the area from the beach out to a junction with the ship hydrography, or approximately the 12 fathom curve..

The control for the hydrography consisted of 3rd order triangulation, supplemented by plane table signals.

GENERAL CHARACTER OF SHORE LINE

Reference is made to the Descriptive Report covering the topographic sheet made this season, and covering the same stretch of coast as this hydrographic sheet.

The general appearance of the headlands is adequately described in the 1926 edition of the Coast Pilot for the Pacific Coast.

The entire shore line covered by this sheet consists of a sandy beach backed by a series of sand dunes varying in height from 20 to 60 feet. Numerous clump of trees in the lowlands back of the sand dunes, are plainly visible from a distance of a mile or two offshore. Beyond these, the hills and peaks in the background can easily be seen on a clear day. Among these latter may be mentioned Scarborough Hill, Coxcomb Hill, with the new Astor memorial column, and Saddle mountain.

Signal "MAST" is the top of the mainmast of a schooner that was wrecked on the beach several years ago. "ASTOR", "MACK" and "SY" are on prominent sand dunes, while "HOT" is the chimney of the Gearhart Hotel, a large structure, plainly visible from offshore.

BOTTOM CHARACTERISTICS

The bottom is uniformly sandy, and slopes rather gradually to the beach from the outer limits of the sheet. It will be noted that while numerous soundings of 1 to $1\frac{1}{2}$ fathoms were obtained close to the beach, it was generally impossible to get closer inshore than to a depth of 3 to 4 fathoms. With a moderate onshore breeze blowing, the breakers usually form in this depth. It is accordingly recommended to stay well outside the 5 fathom curve.

DANGERS TO NAVIGATION

There are no dangers to navigation in the area covered by this sheet.

CURRENTS

Currents are in generally southerly and of small strength, and depend very largely on the strength and direction of the wind. A northerly set usually accompanies a strong southerly wind.

AIDS TO NAVIGATION

There are no aids to navigation within the limits of the sheet. All important landmarks are described above, or in the descriptive report covering the topographic survey of this area, or in the Coast Pilot for the Pacific Coast.

CHANNEL LINES

There are no channels or channel lines in the area covered by this sheet.

ANCHORAGES

The area covered by this report contains no good anchorages for small craft, except near the extreme northern end of the sheet where protection from northwesterly winds is afforded by the south jetty of the Columbia River. For larger craft, the bottom possesses good holding characteristics, so that in the event of Southeasterly gales, good anchorage is available near the southern limit of the sheet; and in the event of strong northeasterly gales, good anchorages are available south of the Columbia River Jetty.

TIDAL DATA

When available, Tide reducers obtained from the Fort Stephens gauge were used. If these were not available, those obtained from the Tongue Point or Garibaldi gauges were used, the proper time correction being made in each case.

The time differences are as follows:

Open coast to Jetty	- - - - -	05 minutes.
Open coast to Ft. Stephen	- - - - -	35 minutes.
Open coast to Tongue Point	- - - - -	75 minutes.
Open coast to Garibaldi	- - - - -	45 minutes.

The time differences between the Fort Stephens, Tongue Point, and Garibaldi gauges were determined by simultaneous observation at the gauges.

North of an east-west line through the northern part of Tillamook Head and outside of a line drawn from the 30 fathom curve off Tillamook Head to the 10 fathom curve off the Columbia River, the tide arrives 10 minutes earlier than along the open coast.

Statistic sheet

Date	Letter	Vol	Pos.	sdgs	Miles sta	Vessel	Remarks
July 7	a	1	68	284	17.1	Launch Star	
" 9	h	1	72	335	20.0	" "	
" 12	c	1	64	315	16.6	" "	
" 13	d	1-2	97	502	26.3	" "	
" 14	e	2	101	448	24.0	" "	Lch sheet A
" 15	f	2	110	436	24.6	" "	
" 19	g	2	103	434	20.0	" "	
" 20	h	3	72	182	14.0	" "	
Oct 4	j	4	48	101	11.0	" "	
" 5	k	4	52	118	10.2	" "	
Totals			787	3255	1855		

May 26, 1927.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 4611

Locality: OREGON COAST.

Chief of Party: R. F. Luce

Plane of reference is M L L W
-0.2 ft. on tide staff at Fort Stevens
2.6 ft. do Tongue Point.

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G. Wade

Chief, Division of Tides and Currents.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO. 11-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

June 27, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4611

Coast of Oregon, Clatsop Plains, Clatsop Spit to Gearhart

Surveyed in 1926

Instructions dated April 20, 1926.

Chief of Party, R. F. Luce.

Surveyed by H. Odessey, F. W. Hough.

Protracted by H. O. and F. W. H.

Soundings plotted by R. L. Pfau.

Verified and inked by R. C. Rowse.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development fulfill the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. The sounding line crossings are adequate.
5. The usual depth curves can be completely drawn.
6. The field plotting was completed to the extent prescribed in the General Instructions.
7. In the office about 15 per cent of the positions had to be shifted.
8. Adjacent sheets not completed at the time of this report.
9. No further surveying is required to fully develop important areas within the limits of the sheet.
10. There was a great deal of inaccuracy in the protracting, which was evidently due to the fact that the protractor was not in perfect

adjustment. This was especially true at the offshore ends of the sounding lines, where in several specific cases the true positions were approximately 50 meters from the positions plotted in the field. The accuracy may be judged from the following statistics:

No. positions	787
No. tested	306
No. found wrong	123
% found wrong	$123/306 \times 100 = 40.2$
% of total found wrong	$123/787 \times 100 = 15.6$

The indications point to the conclusion that the protractor used was from five to ten minutes out on the right angle side.

11. Character and scope of surveying - excellent.
Field drafting - good.

Report submitted by R. C. Rowse, June, 1927.

Approved:

Chief, Section of Field Records (Charts)

Chief, Section of Field Work (H. & T.)

Note:

All of the erroneously protracted positions were found in the inshore work plotted by H. Odessey.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. ^{A 4611} 4611

4611

State . Oregon.

General locality . Clatsop Plains.

Locality . Clatsop Spit. to Gearhart, Oregon.

Chief of party . R.F. Luce.

Surveyed by . H.P. Odessey, H. & G.E.

Date of survey . July 8 - July 21

Scale . 1 : 20,000

Soundings in . Fathoms.

Plane of reference . M.L.L.W.

Protracted by . H.O. . . . Soundings in pencil by R.L.P. . .

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. ☒ report, ☐ Tide books, ☐ Marigrams, ☒ Boat sheets,

☐ Sounding books, ☐ Wire-drag books, ☐ Photographs.

Data from other sources affecting sheet

Remarks:

Launch Star Hydrographic Sheet A